CLAIMS

What is claimed is:

1   1. A method for generating an opportunistic broadcast schedule,

2   comprising:

3   broadcasting meta-data to a plurality of client systems, the meta-data

4   including descriptions of a plurality of pieces of content that are in consideration

5   for upcoming broadcasts;

6   receiving individual sets of client demand feedback data from at least a

7   portion of said plurality of client systems, each individual set of client demand

8   feedback data comprising data indicating a client interest level in at least a portion

9   of the plurality of pieces of content;

10   determining a piece of content from among said plurality of pieces of

11   content that is most opportunistic for a next broadcast by aggregating the

12   individual sets of client demand feedback data; and

13   scheduling the piece of content that is determined to be most opportunistic

14   to broadcast for a next broadcast.

1   2. The method of claim 1, wherein scheduling the piece of content that is

2   determined to be most opportunistic for a next broadcast comprises:

3   maintaining a broadcast schedule queue comprising an ordered list of

4   pieces of content that are scheduled to be broadcast in sequence derived from the

5   aggregation of the client demand feedback data based on a relative level of client

6   interest in each piece of content.

7   placing the piece of content that is determined to be most opportunistic for

8   a next broadcast at the top of the broadcast schedule queue such that it is next to

9   be broadcast,

10   wherein the determination of the piece of content that is most

11   opportunistic for a next broadcast is performed continuously.

1   3. The method of claim 2, further comprising resetting the client demand

2   feedback data for each piece of content that is determined to be most opportunistic

3   for a next broadcast in response to a broadcast of that piece of content such that

4   the piece of content cannot be determined again to be the piece of content that is

5   most opportunistic for a next broadcast until new client demand feedback data

6   corresponding to that piece of content is received.

1   4. The method of claim 2, wherein the individual sets of client demand

2   feedback data are received from respective client systems on an asynchronous

3   basis and the broadcast schedule queue is recalculated upon receiving each

4   individual set of client demand feedback data.

1   5. The method of claim 2, further comprising adjusting the broadcast

2   schedule queue in consideration of business objectives.

1   6. The method of claim 1, wherein the client demand feedback data

2   comprises ratings data corresponding to respective pieces of content, and wherein

3   the piece of content that is determined to be most opportunistic to broadcast

4   comprises a highest rated piece of content derived from an aggregation of the

5   ratings data.

1   7. The method of claim 6, wherein the aggregation of the ratings data

2   comprises calculating an average ratings value for each piece of content and the

3   highest rated piece of content is the piece of content with the highest average

4   rating value.

1   8. The method of claim 6, wherein at least a portion of the ratings data

2   comprise rating inputs provided by users of the client systems, each rating input

3   indicating a level of desirability of a given user to receive a corresponding piece

4   of content.

1   9. The method of claim 6, wherein at least a portion of the ratings data is

2   automatically generated by the client systems based on data stored on the client

3   systems that are indicative of content preferences of users of the client systems.

1   10. The method of claim 6, further comprises adjusting ratings data

2   corresponding to any pieces of content that are rated by a given client system in

3   consideration of a revenue-generating potential for those pieces of content.

1   11. The method of claim 6, wherein, for each individual set of client

2   demand feedback data received from a client system, a first portion of the ratings

3   data comprises rating inputs provided by one or more users of that client system

4   and a second portion of the ratings data are automatically generated by that client

5   system based on data stored on that client system that are indicative of content

6   preferences of said one or more users of that client system.

1   12. The method of claim 6, wherein the meta-data is broadcast as a

2   continuous stream and includes a content descriptor for each piece of content

3   comprising a set of attributes and attribute values that are used to describe that

4   piece of content, and further wherein at least a portion of the client systems

5   provide ratings data corresponding to an individual piece of content in response to

6   receiving the content descriptor for that piece of content.

1   13. The method of claim 1, wherein at least a portion of the individual

2   sets of client demand feedback data comprise relative rankings data pertaining to

3   relative levels of interest in at least two pieces of content, and wherein the piece of

4   content that is determined to be most opportunistic to broadcast comprises is

5   determined, at least in part, by aggregating the relative rankings data.

1   14. The method of claim 13, wherein the aggregation of the relative

2   rankings data comprises calculating an average ranking for each piece of content

3   among said plurality of pieces of content and the piece of content that is

4   determined to be most opportunistic for a next broadcast is the piece of content

5   with the highest average ranking.

1   15. The method of claim 13, wherein at least a portion of the relative

2   rankings data comprise individual sets of relative ranking inputs provided by users

3   of the client systems, each individual set of relative ranking inputs comprising a

4   relative ranking of at least two pieces of content, wherein the relative ranking is

5   indicative of a relative level of desirability of a given user of a respective client

6   system to receive a broadcast of the pieces of content ranked by that user.

1   16. The method of claim 13, wherein at least a portion of the relative

2   rankings data is automatically generated by the client systems based on data stored

3   on the client systems that are indicative of content preferences of users of the

4   client systems.

1   17. The method of claim 13, further comprises adjusting relative rankings

2   data corresponding to pieces of content that are rated by a given client system in

3   consideration of a revenue-generating potential for those pieces of content.

1   18. The method of claim 13, wherein, for each individual set of client

2   demand feedback data among at least a portion of the individual sets of client

3   demand feedback data comprising relative rankings data, a first portion of the

4   relative rankings data comprises relative ranking inputs provided by one or more

5   users of the client system from which that individual set of client feedback is

6   received and a second portion of the relative rankings data are automatically

7   generated by that client system based on data stored on that client system that are

8   indicative of content preferences of said one or more users of that client system.

1   19. The method of claim 13, wherein a current set of meta-data

2   corresponding to a set of pieces of content considered for an upcoming broadcast

3   is broadcast as a continuous stream that is repeated and includes a respective

4   content descriptor for each piece of content included in the set of pieces of

5   content, and wherein at least a portion of the individual sets of client demand

6   feedback data includes a ranked list expressing a relative interest in all of the

7   pieces of content in the set of pieces of content.

1   20. The method of claim 1 further comprising broadcasting a broadcast

2   schedule prior to broadcasting the piece of content that is determined to be the

3   most opportunistic for the next broadcast.

1   21. The method of claim 1, wherein the plurality of client systems are

2   segmented such that each client system is a member of a particular segment

3   among multiple segments and each individual set of client feedback data includes

4   data that identifies the segment the client system is a member of, and further

5   wherein a most opportunistic piece of content is determined and scheduled for a

6   next broadcast for each segment.

1   22. The method of claim 21, wherein the plurality of client systems are

2   segmented based on geography such that each client is assigned to a geographical

3   region.

1   23. The method of claim 21, wherein the plurality of client systems are

2   segmented based on a network by which each client receives broadcast content.

1   24. The method of claim 1, further comprising broadcasting at least a

2   portion of the piece of content that is determined to be the most opportunistic for a

3   next broadcast using post multiplex insertion of null data packets.

1   25. The method of claim 1, further comprising broadcasting at least a

2   portion of the piece of content that is determined to be the most opportunistic for a

3   next broadcast using statistical multiplexing.

1   26. An apparatus, comprising:

2   a processor having circuitry to execute instructions;

3   a communications interface coupled to the processor to receive data from

4   the one or more client systems;

5   a storage device coupled to the processor, having sequences of instructions

6   stored therein, which when executed by the processor cause the apparatus to

7   receive individual sets of client demand feedback data from a

8   plurality of client systems, each individual set of client demand feedback

9   data generated in response to meta-data that is broadcast to the plurality of

10   client systems, the meta-data including descriptions of a plurality of pieces

11   of content that are in consideration for upcoming broadcasts, each

12   individual set of client demand feedback data indicating a client interest

13   level in at least a portion of the plurality of pieces of content;

14   determine a piece of content from among said plurality of pieces of

15   content that is most opportunistic for a next broadcast by aggregating the

16   individual sets of client demand feedback data; and

17   schedule the piece of content that is determined to be most

18   opportunistic to broadcast for a next broadcast.

1   27. The apparatus of claim 26, wherein the apparatus schedules the piece

2   of content that is determined to be most opportunistic for a next broadcast by

3   performing the operations of:

4   maintaining a broadcast schedule queue comprising an ordered list of

5   pieces of content that are scheduled to be broadcast in sequence derived from the

6   aggregation of the client demand feedback data based on a relative level of client

7   interest in each piece of content.

8   placing the piece of content that is determined to be most opportunistic for

9   a next broadcast at the top of the broadcast schedule queue such that it is next to

10   be broadcast,

11   wherein the determination of the piece of content that is most

12   opportunistic for a next broadcast is performed continuously.

1   28. The apparatus of claim 27, wherein the individual sets of client

2   demand feedback data are received from respective client systems on an

3   asynchronous basis and the broadcast schedule queue is recalculated upon

4   receiving each individual set of client demand feedback data.

1   29. The apparatus of claim 26, wherein the client demand feedback data

2   comprises ratings data corresponding to respective pieces of content, and wherein

3   the piece of content that is determined to be most opportunistic to broadcast

4   comprises a highest rated piece of content derived from an aggregation of the

5   ratings data.

1   30. The apparatus of claim 29, wherein, for at least a portion of the

2   individual sets of client demand feedback data received from the client systems, a

3   first portion of the ratings data comprises rating inputs provided by one or more

4   users of the client system from which that individual set of client demand

5   feedback data is received and a second portion of the ratings data are

6   automatically generated by that client system based on data stored on that client

7   system that are indicative of content preferences of said one or more users of that

8   client system.

1   31. The apparatus of claim 29, wherein the meta-data is broadcast as a

2   continuous stream and includes a content descriptor for each piece of content

3   comprising a set of attributes and attribute values that are used to describe that

4   piece of content, and further wherein at least a portion of the client systems

5   provide ratings data corresponding to an individual piece of content in response to

6   receiving the content descriptor for that piece of content.

1   32. The apparatus of claim 26, wherein at least a portion of the individual

2   sets of client demand feedback data comprise relative rankings data pertaining to

3   relative levels of interest in at least two pieces of content, and wherein the piece of

4   content that is determined to be most opportunistic to broadcast comprises is

5   determined, at least in part, by aggregating the relative rankings data.

1   33. The apparatus of claim 32, wherein, for each individual set of client

2   demand feedback data among at least a portion of the individual sets of client

3   demand feedback data comprising relative rankings data, a first portion of the

4   relative rankings data comprises relative ranking inputs provided by one or more

5   users of the client system from which that individual set of client feedback is

6   received and a second portion of the relative rankings data are automatically

7   generated by that client system based on data stored on that client system that are

8   indicative of content preferences of said one or more users of that client system.

1   34. The apparatus of claim 32, wherein a current set of meta-data

2   corresponding to a set of pieces of content considered for an upcoming broadcast

3   is broadcast as a continuous stream that is repeated and includes a respective

4   content descriptor for each piece of content included in the set of pieces of

5   content, and wherein at least a portion of the individual sets of client demand

6   feedback data includes a ranked list expressing a relative interest in all of the

7   pieces of content in the set of pieces of content.

1   35. A machine-readable medium having a plurality of machine-executable

2   instructions stored thereon, which when executed by a machine cause the machine

3   to:

4   receive individual sets of client demand feedback data from a

5   plurality of client systems, the individual sets of client demand feedback

6   data generated in response to meta-data that is broadcast to the plurality of

7   client systems, the meta-data including descriptions of a plurality of pieces

8   of content that are in consideration for upcoming broadcasts, each

9   individual set of client demand feedback data indicating a client interest

10   level in at least a portion of the plurality of pieces of content;

11   determine a piece of content from among said plurality of pieces of

12   content that is most opportunistic for a next broadcast by aggregating the

13   individual sets of client demand feedback data; and

14   schedule the piece of content that is determined to be most

15   opportunistic to broadcast for a next broadcast.

1   36. The machine-readable medium of claim 35, wherein execution of the

2   plurality of machine instructions cause the machine to schedule the piece of

3   content that is determined to be most opportunistic for a next broadcast by

4   performing the operations of:

5   maintaining a broadcast schedule queue comprising an ordered list of

6   pieces of content that are scheduled to be broadcast in sequence derived from the

7　　aggregation of the client demand feedback data based on a relative level of client

8　　interest in each piece of content.

9　　　　placing the piece of content that is determined to be most opportunistic for

10　a next broadcast at the top of the broadcast schedule queue such that it is next to

11　be broadcast,

12　　　　wherein the determination of the piece of content that is most

13　opportunistic for a next broadcast is performed continuously.

1　　37. The machine-readable media of claim 36, wherein the individual sets

2　of client demand feedback data are received from respective client systems on an

3　asynchronous basis and the broadcast schedule queue is recalculated upon

4　receiving each individual set of client demand feedback data.

1　　38. The machine-readable media of claim 35, wherein the client demand

2　feedback data comprises ratings data corresponding to respective pieces of

3　content, and wherein the piece of content that is determined to be most

4　opportunistic to broadcast comprises a highest rated piece of content derived from

5　an aggregation of the ratings data.

1　　39. The machine-readable media of claim 38, wherein, for at least a

2　portion of the individual sets of client demand feedback data received from the

3　client systems, a first portion of the ratings data comprises rating inputs provided

4   by one or more users of the client system from which that individual set of client

5   demand feedback data is received and a second portion of the ratings data are

6   automatically generated by that client system based on data stored on that client

7   system that are indicative of content preferences of said one or more users of that

8   client system.

1   40. The machine-readable medium of claim 38, wherein the meta-data is

2   broadcast as a continuous stream and includes a content descriptor for each piece

3   of content comprising a set of attributes and attribute values that are used to

4   describe that piece of content, and further wherein at least a portion of the client

5   systems provide ratings data corresponding to an individual piece of content in

6   response to receiving the content descriptor for that piece of content.

1   41. The machine-readable medium of claim 35, wherein at least a portion

2   of the individual sets of client demand feedback data comprise ranking data

3   pertaining to relative levels of interest in at least two pieces of content, and

4   wherein the piece of content that is determined to be most opportunistic to

5   broadcast comprises is determined, at least in part, by aggregating the rankings

6   data.

1   42. The machine-readable medium of claim 41, wherein, for each

2   individual set of client demand feedback data among at least a portion of the

3 individual sets of client demand feedback data comprising relative rankings data,

4 a first portion of the relative rankings data comprises relative ranking inputs

5 provided by one or more users of the client system from which that individual set

6 of client feedback is received and a second portion of the relative rankings data

7 are automatically generated by that client system based on data stored on that

8 client system that are indicative of content preferences of said one or more users

9 of that client system.

1 43. The machine-readable medium of 41, wherein a current set of meta-

2 data corresponding to a set of pieces of content considered for an upcoming

3 broadcast is broadcast as a continuous stream that is repeated and includes a

4 respective content descriptor for each piece of content included in the set of pieces

5 of content, and wherein at least a portion of the individual sets of client demand

6 feedback data includes a ranked list expressing a relative interest in all of the

7 pieces of content in the set of pieces of content.

1 44. A system, comprising:

2 a broadcast server;

3 a database server, linked in communication with the broadcast server; and

4 a plurality of client systems linked in communication with the broadcast

5 server via a first communications link and linked in communication with the

6 database server via a second communication link;

7   wherein the broadcast server is programmed to broadcast meta-data to said

8   plurality of client systems via the first communications link, the meta-data

9   including descriptions of a plurality of pieces of content that are considered for

10   upcoming broadcasts;

11   wherein each of said plurality of client systems is programmed to generate

12   an individual set of client demand feedback data indicating a client interest level

13   in at least a portion of the plurality of pieces of content based, in part, on the

14   descriptions of such provided by the meta-data;

15   wherein at least a portion of the plurality of client systems send individual

16   sets of client demand feedback data to the database server via the second

17   communications link;

18   wherein the database server is programmed to determine a piece of content

19   from among said plurality of pieces of content that is most opportunistic for a next

20   broadcast by aggregating the individual sets of client demand feedback data;

21   wherein at least one of the broadcast server and database server is

22   programmed to schedule the piece of content that is determined to be most

23   opportunistic to broadcast for a next broadcast; and

24   wherein the broadcast system is further programmed to broadcast the piece

25   of content that is determined to be most opportunistic when bandwidth becomes

26   available on the first communications link.

1   45. The system of claim 44, wherein one of the database server and

2   broadcast server schedules the piece of content that is determined to be most

3   opportunistic for a next broadcast by performing the operations of:

4   maintaining a broadcast schedule queue comprising an ordered list of

5   pieces of content that are scheduled to be broadcast in sequence derived from the

6   aggregation of the client demand feedback data based on a relative level of client

7   interest in each piece of content.

8   placing the piece of content that is determined to be most opportunistic for

9   a next broadcast at the top of the broadcast schedule queue such that it is next to

10   be broadcast,

11   wherein the determination of the piece of content that is most

12   opportunistic for a next broadcast is performed continuously.

1   46. The system of claim 45, wherein the individual sets of client demand

2   feedback data are received from respective client systems on an asynchronous

3   basis and the broadcast schedule queue is recalculated by the database server upon

4   receiving each individual set of client demand feedback data.

1   47. The system of claim 44, wherein the client demand feedback data

2   comprises ratings data corresponding to respective pieces of content, and wherein

3   the piece of content that is determined to be most opportunistic to broadcast

4   comprises a highest rated piece of content derived from an aggregation of the

5   ratings data.

1   48. The system of claim 47, wherein, for at least a portion of the

2   individual sets of client demand feedback data received from the client systems, a

3   first portion of the ratings data comprises rating inputs provided by one or more

4   users of the client system from which that individual set of client demand

5   feedback data is received and a second portion of the ratings data are

6   automatically generated by that client system based on data stored on that client

7   system that are indicative of content preferences of said one or more users of that

8   client system.

1   49. The system of claim 47, wherein the meta-data is broadcast as a

2   continuous stream and includes a content descriptor for each piece of content

3   comprising a set of attributes and attribute values that are used to describe that

4   piece of content, and further wherein at least a portion of the client systems

5   provide ratings data corresponding to an individual piece of content in response to

6   receiving the content descriptor for that piece of content.

1   50. The system of claim 44, wherein at least a portion of the individual

2   sets of client demand feedback data comprise relative rankings data pertaining to

3   relative levels of interest in at least two pieces of content, and wherein the piece of

4   content that is determined to be most opportunistic to broadcast comprises is

5   determined, at least in part, by aggregating the relative rankings data.

1   51. The system of claim 50, wherein, for each individual set of client

2   demand feedback data among at least a portion of the individual sets of client

3   demand feedback data comprising relative rankings data, a first portion of the

4   relative rankings data comprises relative ranking inputs provided by one or more

5   users of the client system from which that individual set of client feedback is

6   received and a second portion of the relative rankings data are automatically

7   generated by that client system based on data stored on that client system that are

8   indicative of content preferences of said one or more users of that client system.

1   52. The system of claim 50, wherein a current set of meta-data

2   corresponding to a set of pieces of content considered for an upcoming broadcast

3   is broadcast as a continuous stream that is repeated and includes a respective

4   content descriptor for each piece of content included in the set of pieces of

5   content, and wherein at least a portion of the individual sets of client demand

6   feedback data includes a ranked list expressing a relative interest in all of the

7   pieces of content in the set of pieces of content.

1   53. The system of claim 44, wherein the first communication link

2   comprises a satellite broadcast link and the second communication link comprises

3   a telecommunications link.

1   54. The system of claim 44, wherein the first communication link and

2   second communications link comprise a bi-directional cable system link.

1   55. The system of claim 44, wherein the first communication link

2   comprises a satellite broadcast link and the second communication link comprises

3   a computer network communications link

1   56. The system of claim 44, wherein the first communication link and the

2   second communications link comprise computer network communications links.

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